

Filtered & Light Cigarettes

John Slade, M.D.

University of Medicine and Dentistry
of New Jersey

Terminology

- “Cessation”
- “Cigarette-related”
- “Tar”
- “Puff”

Cigarette Design Change

- Cost savings
- Increase addictiveness
- Increase dosing flexibility
- Beat the test method
- Support marketing claims
- Toxin delivery reductions

Relationship of Nicotine & “Tar”

- Industry contention that cigarettes are designed to a specific “tar” delivery and that nicotine yield passively follows this
- Industry documents reveal concern for “elasticity”
- FDA’s analysis of FTC numbers over time showed Nicotine:Tar has **increased** over the years

Byrd studies

- Byrd I,, in your materials
 - orderly reduction in nicotine absorption across FTC categories
- Byrd II, Psychopharmacology, 1998
 - small difference between highest category and the others but no difference between the lower three categories

Eclipse vs Market “Ultra Low”

• <u>(FTC conditions)</u>	<u>Eclipse</u>	<u>“Ultra Low”</u>
• Nicotine, mg	0.2	0.1
• Acetaldehyde, λ g	54	47
• Acrolein, λ g	19	2
• Benzo(a)Pyrene, ng	0.7	0.8
• NNN, ng	10	12
• NNK, ng	12	10

– Source: Borgerding MF, TCRC presentation, 1996

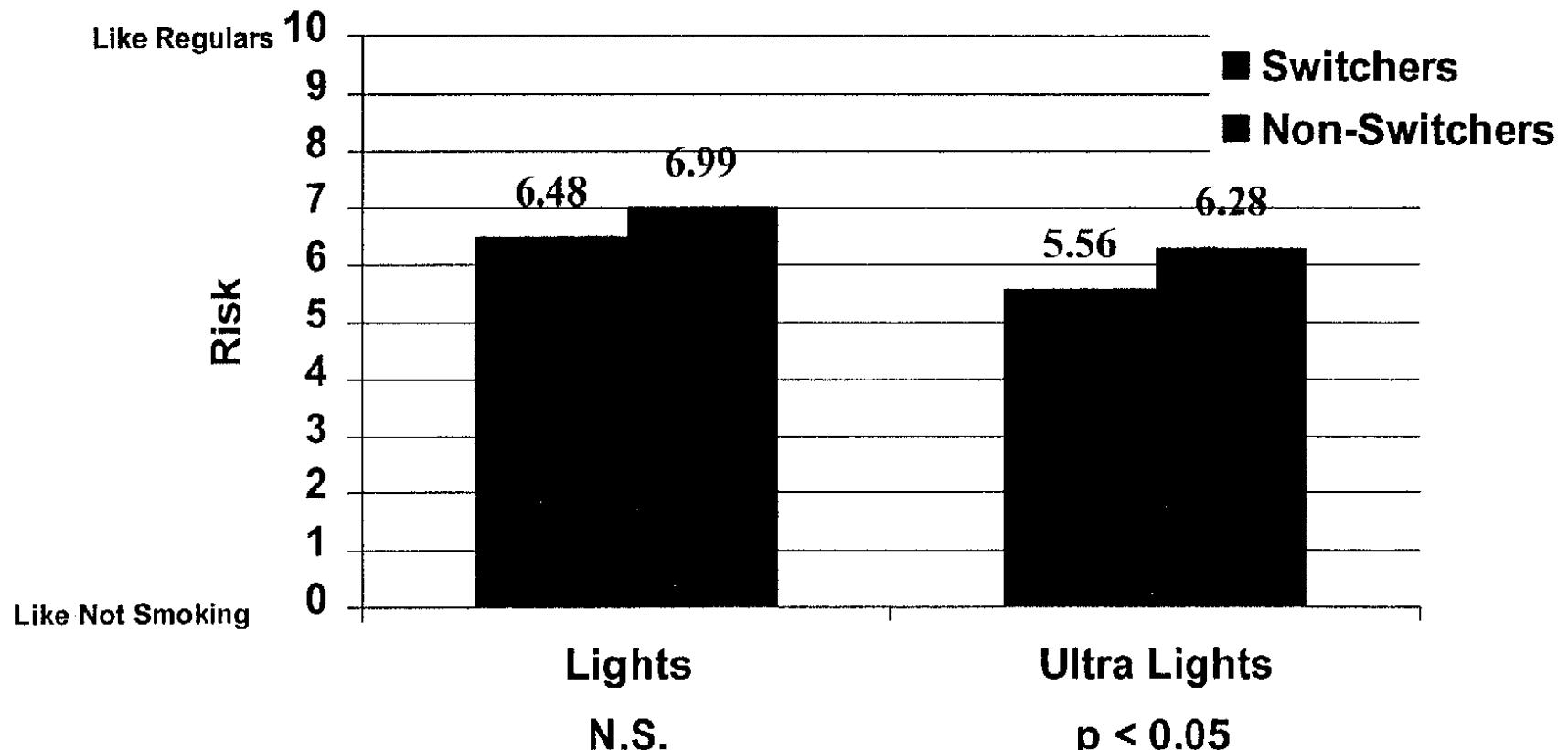
Health Image vs Health-Oriented

- *Health image (health reassurance cigarette)* such as a low tar-low nicotine cigarette which the public accepts as a healthier cigarette
- *Health-oriented cigarette* which has minimal biological activity; for example, one which would yield a near zero reading in a mouse skin painting test
 - Dr. R. A. Sanford, B&W, 1968

Medical Response to “Low Tar”

- If your patient can't or won't stop smoking, at least encourage him to switch to a low tar cigarette.
 - Advice in most primary care textbooks until about 1983
 - Only disappeared in favor of abstinence only advice following dissemination of Benowitz study from NEJM on compensation

Risk of Smoking Lights and Ultra Lights in Comparison to Regulars



*Means adjusted for age, cigarettes per day, years smoked, quit attempts, and type of cigarette smoked

$p < 0.05$

Consumers Underestimate Risk of Smoking

- Only 29% of current smokers believe they have a higher than average risk of heart attack.
- Only 40% believe their risk of cancer is higher than average
 - Ayanian & Cleary, JAMA 218:1019

Thought Experiment

- How large would the cigarette market be today if tobacco companies had not been permitted to market king-sized, filtered or “low tar” cigarettes?
- The only products on the market would be 70 mm unfiltered cigarettes such as original Camel, Lucky Strike, Chesterfield, Old Gold, Marlboro and Home Run

Modeling Public Health Effects of Low Tar Cigarettes

- Net benefit or harm a function of:
 - How much difference in toxicity from conventional products
 - Degree to which low tar is a bridge to quitting
 - Degree to which low tar keeps consumers in the franchise
- Explored in paper presented by Terza, Kozlowski, Erickson, Strasser, Giovino at SRNT 2/00

What is the role for harm reduction?

- Harm reduction a complement to conventional prevention and treatment goals (abstinence)
- May be useful during transition to minimal population use of tobacco products
- At steady state, addresses “residual” tobacco use

Goal for Conventional Prevention and Treatment

- Cigarette use by MDs in the US circa 5%
- Daily + Occasional cigarette use in Mass now 18% of adults
- Daily cigarette use alone in Mass now 14.7% in < 10 years of state program
- Consistent application of current treatment and prevention approaches should yield adult rates of about 5 - 10% cigarette use

Role of Harm Reduction

- At steady state, harm reducing products should supply only the 5 - 10% of the population who continue to smoke with products that are no more toxic or addictive than necessary.
- Usage rates higher than this should, as a first approximation, be regarded as indicating unnecessarily extensive utilization of still harmful products.

Studies pertinent to estimating the potential market for harm reduction products

- Smokers unlikely to ever quit: 5.2% of smokers in California
 - Emery et al, AJPH March 2000
- Rate of decline in smoking population will be slower than Healthy People 2010 objective projects
 - Mendez & Warner, AJPH March 2000

Short-term Population Effects of “Harm Reduction” Products

- Follow cohorts of smokers and recent quitters in test and comparison areas for:
 - Smoking, quitting and relapse behavior
 - Knowledge & personal relevance of harms
 - Interest in, plans for abstinence
 - Brand choice, switching
 - Awareness of novel product marketing
 - Trial of novel product
 - Adoption of novel product

Preliminary Thoughts on Claims

- Claim narrowly justified by data may still be misleading or not in the public interest
 - Other harms not remedied by the product improvement are difficult to weigh against the affirmative claim
 - Harm reduction will occur at different rates for different consequences, eg cancer, CV disease
 - A cancer prevention claim or implication should be discounted because of latency